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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,217	06/26/2001	Henning Lysdal	42390P11078	5016

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BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Seventh Floor
12400 Wilshire Boulevard
Los Angeles, CA 90025-1026

EXAMINER	
ZHENG, EVA Y	
ART UNIT	**PAPER NUMBER**
2634	

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/893,217	LYSDAL ET AL.	
	Examiner	Art Unit	
	Eva Yi Zheng	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claim 1, line 4-8, a clock signal source transmitting from the second device to the first device is contradicting with a second clock signal being the clock signal source transmitting from the first device to the second device. It fails to comply with enablement since claim language for modification of clock signal source is different when comparing with the specification.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-13 and 16-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, line 4-8, recitation: "transmitting a clock signal source from the second device to the first device" is confusing with "the second clock signal being

the clock signal source" and "transmitting a second clock signal from the first device to the second device". So a clock signal source is transmitting from where to where is contracting and confusing.

5. Regarding claim 1, the phrase "being" renders the claim(s) indefinite because should the second clock signal read as the same as clock signal source, or the second clock signal function/works as the clock signal source.

6. Regarding claims 1, the phrase "substantially" renders the claim(s) indefinite.

7. Regarding claim 8, the phrase "being" renders the claim(s) indefinite because should the second clock signal read as the same as clock signal source, or the second clock signal function/works as the clock signal source.

8. Regarding claims 7, 12, 16, 21, 24 and 25, the phrase "if" renders the claim(s) indefinite because "if" defined as it may happen or not happen.

9. Regarding claim 17, the phrase "being" renders the claim(s) indefinite because should the second clock signal read as the same as the first clock signal, or the second clock signal function/works as the first clock signal.

10. Regarding claim 24, the phrase "being" renders the claim(s) indefinite because should the third clock signal read as the same as the second clock signal, or the third clock signal function/works as the second clock signal.

Claim Objections

11. Claim14 is objected to because of the following informalities: on line 6, recitation: " a second connection" should be changed to --a second interface connection--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1, 2, 3, 8, 14, 17, 18 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Liu et al (US 6,725,390 B1).

a) Regarding claim 1, Liu et al. discloses a method comprising:

interfacing (as shown in Fig. 2) a first device (204) with a second device (206);

clocking (202) at least a portion of the second device with a first clock signal (Col 3, L21-24);

transmitting a clock signal source (256) from the second device to the first device (Col 3, L37-39);

transmitting a second clock signal (260) from the first device to the second device, the second clock signal being the clock signal source delayed by a propagation delay (Col 3, L 51-53);

adjusting a phase of the clock signal source such that a phase of the second clock signal is substantially in alignment with a phase of the first clock signal (Col 3, L 56 – Col 4, L 4); and

transmitting data (270 and 272) clocked by the second clock signal from the first device to the second device.

b) Regarding claim 8, Liu et al. discloses a transmitter comprising: (as shown in Fig.2)

a subpart (212) that is clocked by a first clock signal (256);

a first interface connection to a device (270), the device transmitting data (270)to the transmitter using the first interface connection;

a second interface connection to the device (256), the transmitter transmitting a clock signal source (202) to the device using the second interface connection;

a third interface connection to the device (260), the device transmitting a second clock signal to the transmitter using the third interface connection, the second clock signal being the clock signal source delayed by a propagation delay through a portion of the device (Col 3, L 51-53); and

a phase detection unit, the phase detection unit adjusting the phase of the clock signal source to align the phase of the second clock signal with the phase of the first clock signal (Col 3, L 56 – Col 4, L 4).

c) Regarding claim 14, Liu et al. discloses a self-synchronizing interface comprising:

a first interface connection (as shown in Fig. 2) between a first device (204) and a second device (206), the second device transmitting a first clock signal (256) to the first device through the first interface connection;

a second connection (as shown in Fig. 2) between the first device and the second device, the first device transmitting a delayed version of the first clock signal (260) to the second device, the second device modifying the phase of the first clock signal such that the phase of the delayed version of the first clock signal aligns with the phase of a second clock signal, at least a portion of the second device being clocked by the second clock signal (Col 3, L 56 – Col 4, L 4); and

a third interface connection (270) between the first device and the second device, the first device transmitting data (270) to the second device through the third interface connection, the data being clocked (266) by the delayed version of the first clock signal.

d) Regarding claim 17, Liu et al. discloses a data communication system comprising: (as shown in Fig. 2)

a first subsystem (204), the first subsystem receiving a first clock signal (256), the first subsystem further transmitting data that is clocked by a second clock signal (260), the second clock signal being the first clock signal delayed by a propagation delay through at least a portion of the first subsystem (Col 3, L 51-53); and

a second subsystem (206), the second subsystem transmitting the first clock signal (256) to the first subsystem and receiving the data (270) and the second clock signal (260) from the first subsystem, at least a portion of the second subsystem being

clocked by a third clock signal (266), the second subsystem modifying the phase of the first clock signal to align the phase of the second clock signal with the phase of the third clock signal (Col 4, L22-27)

e) Regarding claim 24, Liu et al. discloses a method comprising:

interfacing (as shown in Fig. 2) a first device (204) with a second device (206);

generating a first clock signal (256) and a second clock signal (260);

clocking at least a portion of the second device with the first clock signal (202);

transmitting the second clock signal from the second device to the first device (Col 3, L 51-53);

generating a third clock signal (266), the third clock signal being the second clock signal after propagating through a portion of the first device (Col 4, L 23-25);

transmitting the third clock signal and data (270) clocked by the third clock signal from the first device to the second device;

detecting phases and frequencies of the first clock signal and the third clock signal and comparing the phase of the first clock signal to the phase of the third clock signal (240 and 242; Col 4, L 5-12); and

if the phase of the first clock signal and the phase of the third clock signal are not in alignment, modifying the phase of the second clock signal until the phase of the third clock signal is aligned with the phase of the first clock signal (Col 4, L22-27).

f) Regarding claim 2, Liu et al. discloses wherein the second device is a high speed analog semiconductor device (Col 2, L 44-46, inherent as chipset).

g) Regarding claim 3, Liu et al. discloses wherein the first device is a CMOS semiconductor device (Col 2, L 44-46, inherent as chipset).

h) Regarding claim 18, Liu et al. discloses the data communications system, wherein the first subsystem includes a buffer memory (218 in Fig. 2).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claim 15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al (US 6,725,390 B1).

Regarding claims 15 and 20, Liu et al. discloses all the subjects described above except for explicitly pointing out the phase of the first clock signal is modified by the frequency of the first clock signal.

According to Liu et al., the first signal (256 in Fig. 2) is a timing signal for the purpose of synchronizing one or more signals (Col 3, L 38-45).

It is well known that phase modulation is directly related to frequency of the signals. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to conclude and realize that to achieve timing signal synchronizing, the signal phase in Liu et al.'s system is modulated by frequency. In

doing so, adjusting the first clock signal as a function of an offset and align this clock signal in a receiver with the incoming data signal.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Yi Zheng whose telephone number is (571) 272-3049. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-879-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Eva Yi Zheng
Examiner
Art Unit 2634

October 6, 2004

SHUWANG LIU
PRIMARY EXAMINER